

## Identification of Achievable Performance Standards

Source Category: Fugitive Emissions of VOCs from O/G Production and Processing Facilities

Regulated Component	Pollutant	Rule/Measure/Date							
		RACT Determination of Fugitive Emissions of VOCs from Oil and Gas Production and Processing Facilities, Refineries, Chemical Plants, and Pipeline Transfer Stations. 12/8/93.		SCAQMD Rule 1173. Fugitive Emissions of Volatile Organic Compounds. 5/13/94.		BAAQMD Regulation 8-Organic Compounds, Rule 37-Natural Gas and Crude Oil Production Facilities. 10/17/90		SBCAPCD Rule 331. Fugitive Emissions Inspection and Maintenance. 12/10/91.  (Note: Similar to or less stringent than RACT except as noted)	
		Performance Standard							
Leak Definitions:		X	Conc. of total <u>gaseous</u> hydrocarbons, including methane, measured above background, expressed as methane and measured at interface of leak source; EPA Reference Method 21 "Method 21".	X	Conc. of <u>gaseous</u> volatile organic compound, measured above background, expressed as methane and measured 1 cm or less from leak source; EPA Reference Method 21 "Method 21".		Conc. of total organic compounds, including methane, measured above background, expressed as methane and measured 1 cm or less from leak source; EPA Ref. Method 21 "Method 21".		
Major Gas Leak Definitions:			> 10,000 ppmv	X	> 10,000 ppmv (except PRD)		> 10,000 ppm		
Minor Gas Leak Definitions:			> 1,000 ppmv but ≤ 10,000 ppmv	X	> 1,000 ppmv but ≤ 10,000 ppmv (except PRD)		> 10,000 ppm		
Pressure Relief Device Gas Leak Definitions:				X	> 200 ppm				

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		Performance Standard									
Major Liquid Leak Definitions:		X	visible mist or continuous flow of liquid.		dripping of liquid volatile organic compounds at rate of more than 3 drops per minute.		dripping of total organic compounds (TOC) at rate > 3 drops/min.		visible mist or dripping of liquid at rate > 3 drops/min.		
Minor Liquid Leak Definitions:		X	Not a major leak and drips liquid at a rate of more than 3 drops per minute.		dripping of liquid volatile organic compounds at rate of more than 3 drops per minute.		dripping of total organic compounds (TOC) at rate > 3 drops/min.		visible mist or dripping of liquid at rate > 3 drops/min.		

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		Performance Standard								
A. Leak Control Requirements	VOC			X	- Any liquid leak or gas leak > 50,000 ppm detected by District inspection constitute a violation.  - Any major gas leak detected by District inspection, within any continuous 24-hour period, and numbering in excess of number of leaks allowed, constitute a violation.				No facility shall exceed # of leaks allowed for each inspection period for major gas leaks and/or liquid leaks, as determined by District or operator inspection, except for unforeseen failure or malfunction (Rule 505).	

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A1. <u>Gas leaks allowed (&lt;200 components):</u> - Valves (V) - Pumps seals (P) - Compressors seals (Cp) - Pressure Relief Valves (PRV) - Hatches - Open ended lines (OEL) - Other components		N/A		X	1 2 1 1	N/A		1 2 1 1	
A2. <u>Gas leaks allowed (&gt;200 components):</u> - Valves (V) - Pumps seals (P) - Compressors seals (Cp) - Pressure Relief Valves (PRV) - Hatches - Open ended lines (OEL) - Other components		N/A		X	0.5% of # inspected. 1% of # inspected. 1 1  1	N/A		0.5% of # inspected. 1% of # inspected. 1 1  1	
<b>B. Components ID</b>	VOC					Not specified			

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		Performance Standard									
B1. All components physically identified:		X	- major, critical		- major components		Not specified				
B2. Components identified on flow diagrams:		X	- major, critical, & inaccessible except C & F.		- minor components		Not specified				
C. Operators Inspection Requirements											

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C1. Audio-visual insp. (RACT defn. of leak: any liquid leak, a visible or audible leak, the presence of bubbles using soap solns., or a leak identified by use of a vapor analyzer.) (Note: If vapor leak identified, measured leak according to Method 21.)		X	- Every 8 hrs (P, Cp, PRV) - Daily (P, Cp, PRV, & PRSB at manned oil & gas production fields and pipeline transfer stations) - Weekly (unmanned facilities)		- Every 8 hrs (accessible P, Cp, PRV except for unmanned oil & gas production fields and unmanned pipeline transfer stations)		- Weekly (P, Cp)				
C2. Hydrocarbon analyzer Monitoring (Method 21) - Accessible components:		X	- Quarterly except Threaded Connections & Flanges		- Quarterly		- None specified				
C2. Hydrocarbon analyzer Monitoring (Method 21) - Threaded Connections & Flanges:		X	- Immediately after being installed and semi-annually thereafter				- None specified				

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		Performance Standard										
C2. Hydrocarbon analyzer Monitoring (Method 21) - <u>Inaccessible components:</u>		X	- Yearly		- Yearly		- None specified					
C2. Hydrocarbon Analyzer Monitoring (Method 21) - <u>Unsafe to monitor components:</u>		X	- Inspection plan approved by EO				- None specified					
C2. Hydrocarbon Analyzer Monitoring (Method 21) - <u>PRV after a pressure relief:</u>		X	- W/in 3 days		- W/in 14 days		- None specified					

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		Performance Standard							
<u>C2. Hydrocarbon Analyzer Monitoring (Method 21) - Monitoring frequency extended for good performance:</u>		X	- Yearly (all components except P, Cp, PRV, & PRSB at facility if <u>no liquid leaks and no major gas leaks &gt; 0.5%</u> of total components inspected per inspection period for 12 consecutive months.) ( <b>Note:</b> Leaks from PRSBs are not included in total count of leaking components in the 0.5% determination.)	- Yearly (all components except P, Cp at facility if <u>no liquid leaks and no major gas leaks &gt; 0.5%</u> of total components inspected per inspection period for 5 consecutive quarters)	- None specified				
<u>C3. Tag all leaks detected.</u>		X	Yes - use brightly colored weatherproof tags showing date of leak detection, tag not to be removed until component is repaired and reinspected.	- None specified	- Yes				



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		Performance Standard							
D. Maintenance Requirements									
D1. Non-Essential Components - <b><u>Repair Gas Leaks Within:</u></b>		X	- 14 days (minor) - 5 days (major)	- 14 days (minor) - 5 days (major)	<u>Valves, Flanges, Chokes &amp; Components</u> <u>(See Comments-defn. on worksheet 1-B):</u> - 24 hours.  <u>Pumps and Compressors:</u> - within 24 hours. If spare also exceeded, repair either one within 30 days; the other may be operated until repairs completed.	- 14 days (minor) - 5 days (major)			

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		Performance Standard					
D1. Non-Essential Components - <b>Repair Gas Leaks &gt; 50,000 ppmv Within:</b>		X - 1 day** (onshore) - 2 days (o/g production or pipeline transfer stations) - 5 days (offshore)  (**Note: unless prohibited by Cal OSHA standards or 29 CFR 1910)	- 1 day		- 1 day** or removed from service until successfully repaired (onshore) - 2 days** or removed from service until successfully repaired (offshore)  (**Note: unless prohibited by Cal OSHA standards or 29 CFR 1910)		
D1. Non-Essential Components - <b>Repair Major Liquid Leaks Within:</b>		X - 1 day** (onshore) - 2 days (o/g production or pipeline transfer stations) - 5 days (offshore)  (**Note: unless prohibited by Cal OSHA standards or 29 CFR 1910)	- 1 day	- within 24 hours. If repair not successful, replace within 15 days ( <u>apply to all components</u> ).	- 24 hours		

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		Performance Standard									
D1. Non-Essential Components - <b>Repair Minor Liquid Leaks Within:</b>		X	- 2 day** (onshore) - 5 days (offshore)  (**Note: unless prohibited by Cal OSHA standards or 29 CFR 1910)	- 1 day			- repair within 24 hours. If repair not successful, replace within 15 days ( <i>apply to all components</i> ).		- 24 hours		

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		Performance Standard					
D2. Essential Components - <u>Minimized Leaks Within:</u>		X	- Immediately  - <u>Critical &amp; unsafe to monitor components:</u> minimized and replaced w/ BACT during shutdown or w/in 12 months, whichever occurs first.	- not specified	<u>Valves, Flanges, Chokes &amp; Components</u> <u>(See Comments-defn. on worksheet 1-B):</u> - within 24 hours. If still exceeds 10,000 ppm, repair at next scheduled turnaround but not longer than 3 months.  <u>Packed Seal Pumps and Compressors</u> - within 24 hours. If still exceeds 10,000 ppm, repair at next scheduled maintenance of the well head or within 3 months.		

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D2. Chronic Leakers:		- <u>Components with 5 repair actions for major gas or liquid leak within 12 months</u> ; replaced with BACT.	- <u>Components with 5 repair actions for a liquid leak or a major gas leak within a continuous 12 months period</u> ; replaced with BACT or BART, or vent to an approvable air pollution control device.				

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<u>D2. OEL and V Located at End of Lines:</u>		- Sealed with a blind flange, plug, cap, or a second closed valve except during operations. (Note: Operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs.)									

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		Performance Standard										
D2. Hatches::			- Keep closed except during sampling, adding process matl., or attended maintenance operations.				- Keep all access hatches closed except during active maintenance or repairs. - No open liquid pools of crude oil or condensate in the lease area. - No open or uncovered vessels of crude material larger than 250ml kept in lease area. Keep well cellar covered.					
D3. Components inspected after repair or replacement with Method 21:			- Within 30 days		- Within 30 days		- Within one week.					
D4. Operator management plan:			N/A		N/A		N/A					

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